

Amendments to the Claims

Please replace the claims with the following claim listing, which replaces all prior versions and listing of the claims in the instant application:

1-3. (Canceled)

4. (Currently amended) A system comprising:

a solid state device that captures photon intensity from an illuminated object at a plurality of pixel locations, each one of the plurality of pixel locations including a plurality of successive diode junctions formed at the boundary of nested p-type and n-type semiconductor wells, each diode junction selectively detecting incident light over a range of wavelengths, wherein at least three at least one of the diode junctions detecting wavelengths of a visible light image of from the object at that pixel location, thereby providing a visible light image having three color components, and at least a fourth one of the diode junctions monochromatically detecting an intensity of infrared wavelengths of a diagnostic image of from the object at that pixel location, thereby providing a diagnostic image, the diagnostic image corresponding to emissions from an imaging medium within the object;

an image processing system configured to pseudocolor the diagnostic image to provide a pseudocolored diagnostic image, and configured to superimpose the pseudocolored diagnostic image onto the visible light image to provide a processed image; and

a camera containing a lens, the solid state device, and the image processing system, the camera further including a plurality of inputs for remote operation of the camera and plurality of outputs for an external display system, the plurality of outputs including a visible light output for the visible light image, a diagnostic image output for the diagnostic image, and a combined output for the processed image.

5-6. (Canceled)

7. (Currently Amended) The system of claim [[1]] 4, wherein the imaging medium is at least one of a fluorescent dye, a phosphorescent substance, a chemoluminescent substance, or a scintillant substance.
8. (Currently Amended) The system of claim [[1]] 4, wherein the imaging medium is a substance introduced into the object.
9. (Currently Amended) The system of claim [[1]] 4, wherein the imaging medium is a substance inherently present within the object.
10. (Currently Amended) The system of claim [[1]] 4, wherein the object is an object within a surgical field.
11. (Canceled)
12. (Currently Amended) The system of claim [[1]] 4, wherein the visible light image includes red, blue and green wavelengths of light.
13. (Currently Amended) The system of claim [[1]] 4, wherein the visible light image includes cyan, magenta, and yellow wavelengths of light.
14. (Currently Amended) The system of claim [[1]] 4, wherein the diagnostic image includes a near-infrared wavelength.
15. (Canceled)
16. (Currently Amended) The system of claim [[1]] 4, wherein the diagnostic image includes a plurality of diagnostic images, each at a different range of wavelengths.

17. (Currently Amended) The system of claim [[1]] 4, wherein the diagnostic image is formed from one or more diagnostic wavelengths in the visible light range, the object being illuminated with a light source that is depleted in the diagnostic wavelength range.
18. (Currently Amended) The system of claim [[1]] 4, wherein the visible light image and diagnostic image are processed and displayed in a medical imaging system.
19. (Currently Amended) The system of claim [[1]] 4, wherein the medical imaging system includes a display for rendering a composite image including a superposition of the visible light image and the diagnostic image.
20. (Currently Amended) The system of claim [[1]] 4, wherein the medical imaging system includes one or more inputs for controlling at least one of a field of view of the object, a focus of the object, or a zoom of the object.
21. (Currently Amended) The system of claim [[1]] 4, wherein the medical imaging system includes a surgical tool.
22. (Currently Amended) The system of claim [[1]] 4, wherein the visible light image and diagnostic image are processed and displayed in at least one of a machine vision system, an astronomy system, a military system, a geology system, or an industrial system.
- 23-24. (Canceled)
25. (Currently Amended) The system of claim [[1]] 4, wherein the system captures moving video.
26. (Currently Amended) The system of claim [[1]] 4, wherein the system captures still images.

35. (New) The system of claim 4 further comprising a visible light source.
36. (New) The system of claim 35 wherein the visible light source is depleted such that the visible light source does not interfere with the diagnostic image.
37. (New) The system of claim 4 further comprising an excitation light source.